Section 1. Registration Information

Source Identification

Facility Name:	Huntsman Advanced Materials Americas, LLC.
Parent Company #1 Name:	Huntsman Corporation
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	Revised PHA / Hazard Review due to process change (40 CFR 68.190(b)(5))
Description:	USEPA and New Jersey RMP Submission
Receipt Date:	12-Mar-2019
Postmark Date:	12-Mar-2019
Next Due Date:	12-Mar-2024
Completeness Check Date:	09-Nov-2021
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0015 1444
Other EPA Systems Facility ID:	NJR000004010
Facility Registry System ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	68310150
Parent Company #1 DUNS:	182575584
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	2980 Rte 73 North
Street 2:	
City:	Maple Shade
State:	NEW JERSEY
ZIP:	08052
ZIP4:	
County:	BURLINGTON

Facility Latitude and Longitude

Latitude (decimal):	39.958916
Longitude (decimal):	-074.987890
Lat/Long Method:	Interpolation - Digital map source (TIGER)
Lat/Long Description:	Center of Facility
Horizontal Accuracy Measure:	163
Horizontal Reference Datum Name:	World Geodetic System of 1984

Source Map Scale Number:

Owner or Operator

Operator Name:	Huntsman Corporation
Operator Phone:	(856) 533-3032

Mailing Address

Operator Street 1:	2980 Rte 73 North
Operator Street 2:	
Operator City:	Maple Shade
Operator State:	NEW JERSEY
Operator ZIP:	08052
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Todd Patterson
RMP Title of Person or Position:	EHS Manager
RMP E-mail Address:	Todd_Patterson@huntsman.com

Emergency Contact

Emergency Contact Name:	Todd Patterson
Emergency Contact Title:	EHS Manager
Emergency Contact Phone:	(856) 533-3032
Emergency Contact 24-Hour Phone:	(856) 295-3197
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	Todd_Patterson@huntsman.com

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	
Facility or Parent Company WWW Homepage Address:	www,huntsman.com

Local Emergency Planning Committee

LEPC:	Maple Shade Township OEM

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	50
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes

CAA Title V:
Air Operating Permit ID:

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	06-Jul-2018
Last Safety Inspection Performed By an External Agency:	State environmental agency

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:	Todd Patterson
Preparer Phone:	(856) 533-3032
Preparer Street 1:	2980 Rte 73 North
Preparer Street 2:	
Preparer City:	Maple Shade
Preparer State:	NEW JERSEY
Preparer ZIP:	08052
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents: See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	1000095673
Description:	Specialty Epoxy Prod.
Process Chemical ID:	1000119750
Program Level:	Program Level 3 process
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
CAS Number:	106-89-8
Quantity (lbs):	465010
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000095673
Process NAICS ID:	1000096935
Program Level:	Program Level 3 process
NAICS Code:	325211
NAICS Description:	Plastics Material and Resin Manufacturing

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000076731

Percent Weight:	100.0
Physical State:	Liquid
Model Used:	EPA's RMP*Comp(TM)
Release Duration (mins):	9999.9
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	Yes
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000081721

Percent Weight:	100.0
Physical State:	Liquid
Model Used:	EPA's RMP*Comp(TM)
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	
Emergency Shutdown:	
Other Type:	

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

Accident History ID: 1000059742

Date of Accident:	07-Jan-2017
Time Accident Began (HHMM):	0545
NAICS Code of Process Involved:	325211
NAICS Description:	Plastics Material and Resin Manufacturing
Release Duration:	003 Hours 00 Minutes

Release Event

Gas Release:	
Liquid Spill/Evaporation:	Yes
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	
Piping:	
Process Vessel:	Yes
Transfer Hose:	
Valve:	
Pump:	
Joint:	
Other Release Source:	

Weather Conditions at the Time of Event

Wind Speed:	11.0
Units:	miles/h
Direction:	E
Temperature:	20
Atmospheric Stability Class:	
Precipitation Present:	Yes
Unknown Weather Conditions:	

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	3
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	0
Evacuated:	0

Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Equipment Failure

Contributing Factors

Equipment Failure:	Yes
Human Error:	Yes
Improper Procedures:	
Overpressurization:	
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	

Off-Site Responders Notified

Off-Site Responders Notified:	Notified Only

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	Yes
Revised Maintenance:	
Revised Training:	
Revised Operating Procedures:	Yes
New Process Controls:	
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	
Reduced Inventory:	
None:	
Other Changes Introduced:	

Confidential Business Information

CBI Claimed:	

Chemicals in Accident History

Accident Chemical ID:	1000047879
Quantity Released (lbs):	41
Percent Weight:	100.0
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
CAS Number:	106-89-8
Flammable/Toxic:	Toxic

Accident History ID: 1000068430

Date of Accident:	10-Jun-2019
Time Accident Began (HHMM):	0200
NAICS Code of Process Involved:	325211
NAICS Description:	Plastics Material and Resin Manufacturing
Release Duration:	003 Hours 00 Minutes

Release Event

Gas Release:	
Liquid Spill/Evaporation:	Yes
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	Yes
Piping:	
Process Vessel:	
Transfer Hose:	
Valve:	
Pump:	
Joint:	
Other Release Source:	

Weather Conditions at the Time of Event

Wind Speed:	0.1
Units:	miles/h
Direction:	W
Temperature:	75
Atmospheric Stability Class:	
Precipitation Present:	
Unknown Weather Conditions:	

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	1
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	0
Evacuated:	0
Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Equipment Failure

Contributing Factors

Equipment Failure:	
Human Error:	
Improper Procedures:	
Overpressurization:	
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	Yes
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	A hydrolysis reaction occurred in storage tank ST201

Off-Site Responders Notified

Off-Site Responders Notified:	Notified and Responded

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	
Revised Maintenance:	
Revised Training:	
Revised Operating Procedures:	Yes
New Process Controls:	Yes
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	
Reduced Inventory:	
None:	

Other Changes Introduced:	Added high temperature and pressure alarms to storage tank ST201

Confidential Business Information

CBI Claimed:	

Chemicals in Accident History

Accident Chemical ID:	1000055167
Quantity Released (lbs):	87
Percent Weight:	100.0
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
CAS Number:	106-89-8
Flammable/Toxic:	Toxic

Accident History ID: 1000068431

Date of Accident:	27-Apr-2018
Time Accident Began (HHMM):	1000
NAICS Code of Process Involved:	325211
NAICS Description:	Plastics Material and Resin Manufacturing
Release Duration:	000 Hours 01 Minutes

Release Event

Gas Release:	
Liquid Spill/Evaporation:	Yes
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	Yes
Piping:	
Process Vessel:	
Transfer Hose:	
Valve:	
Pump:	
Joint:	
Other Release Source:	

Weather Conditions at the Time of Event

Wind Speed:	
Units:	
Direction:	
Temperature:	
Atmospheric Stability Class:	
Precipitation Present:	
Unknown Weather Conditions:	Yes

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	0
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	0
Evacuated:	0
Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Human Error

Contributing Factors

Equipment Failure:	
Human Error:	
Improper Procedures:	
Overpressurization:	
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	Operator overfilled a metal tote

Off-Site Responders Notified

Off-Site Responders Notified:	No, not notified

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	
Revised Maintenance:	

Revised Training:	
Revised Operating Procedures:	
New Process Controls:	
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	
Reduced Inventory:	
None:	
Other Changes Introduced:	Replaced metal totes with plastic totes

Confidential Business Information

CBI Claimed:	

Chemicals in Accident History

Accident Chemical ID:	1000055168
Quantity Released (lbs):	50
Percent Weight:	100.0
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
CAS Number:	106-89-8
Flammable/Toxic:	Toxic

Accident History ID: 1000068432

Date of Accident:	25-Apr-2018
Time Accident Began (HHMM):	1950
NAICS Code of Process Involved:	325211
NAICS Description:	Plastics Material and Resin Manufacturing
Release Duration:	000 Hours 01 Minutes

Release Event

Gas Release:	
Liquid Spill/Evaporation:	Yes
Fire:	
Explosion:	
Uncontrolled/Runaway Reaction:	

Release Source

Storage Vessel:	
Piping:	
Process Vessel:	
Transfer Hose:	Yes
Valve:	
Pump:	
Joint:	
Other Release Source:	

Weather Conditions at the Time of Event

Wind Speed:	
Units:	

Direction:	
Temperature:	
Atmospheric Stability Class:	
Precipitation Present:	
Unknown Weather Conditions:	Yes

On-Site Impacts

Employee or Contractor Deaths:	0
Public Responder Deaths:	0
Public Deaths:	0
Employee or Contractor Injuries:	0
Public Responder Injuries:	0
Public Injuries:	0
On-Site Property Damage ($):	0

Known Off-Site Impacts

Deaths:	0
Hospitalization:	0
Other Medical Treatments:	0
Evacuated:	0
Sheltered-in-Place:	0
Off-Site Property Damage ($):	0

Environmental Damage

Fish or Animal Kills:	
Tree, Lawn, Shrub, or Crop Damage:	
Water Contamination:	
Soil Contamination:	
Other Environmental Damage:	

Initiating Event

Initiating Event:	Equipment Failure

Contributing Factors

Equipment Failure:	
Human Error:	
Improper Procedures:	
Overpressurization:	
Upset Condition:	
By-Pass Condition:	
Maintenance Activity/Inactivity:	
Process Design Failure:	
Unsuitable Equipment:	
Unusual Weather Condition:	
Management Error:	
Other Contributing Factor:	Hose gasket failed during transfer

Off-Site Responders Notified

Off-Site Responders Notified:	No, not notified

Changes Introduced as a Result of the Accident

Improved or Upgraded Equipment:	
Revised Maintenance:	
Revised Training:	
Revised Operating Procedures:	
New Process Controls:	
New Mitigation Systems:	
Revised Emergency Response Plan:	
Changed Process:	
Reduced Inventory:	
None:	
Other Changes Introduced:	Hose gasket was replaced

Confidential Business Information

CBI Claimed:	

Chemicals in Accident History

Accident Chemical ID:	1000055169
Quantity Released (lbs):	5
Percent Weight:	100.0
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
CAS Number:	106-89-8
Flammable/Toxic:	Toxic

Section 7. Program Level 3

Description

Process safety information includes process flow diagrams, piping and instrument diagrams, electrical input/output diagrams, fire water system piping diagrams, equipment specifications, and chemical safety data sheets.

The most recent process hazard analysis (PHA) and layers of protection analysis (LOPA) was conducted in March 2017 using the hazard and operability study (HAZOP) methodology. Huntsman hired an outside engineering firm to facilitate the PHA/LOPA.

Written standard operating procedures are updated on a regular basis and include procedures for startup, shutdown, normal operations, and emergencies.

Training is provided for new hires within the first 30 days of employment and refresher training is provided for process operators annually or more often if circumstances warrant. Training topics include hazard communication, emergency response, safe work permits, personal protective equipment, respiratory protection, and use of portable fire extinguishers.

Mechanical integrity and preventive maintenance procedures are in place to assure the reliability of process equipment via testing and inspection, and a computerized work order system is utilized to keep records of equipment repairs.

Safety and environmental incidents are documented and serious incidents are investigated to determine the root cause and identify corrective actions to prevent a recurrence.

Safe work permits are utilized for hot work, energy isolation (lockout tagout), breaking lines, and confined space entry.

Contractors are pre-qualified, trained, and evaluated by Huntsman to ensure that they are qualified to work at the facility. Contractors are required to follow Huntsman policies and procedures.

Management of change (MOC) includes a process change authorization checklist to assure that safety and environmental considerations are addressed. Process change authorizations must be reviewed and approved by facility management. Affected employees must be notified of process changes and trained if necessary. Process safety information and standard operating procedures must also be updated as necessary.

Pre-startup safety reviews (PSSRs) are conducted prior to startup of new equipment or processes to assure that safety and environmental risks have been addressed.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000101243
Chemical Name:	Epichlorohydrin [Oxirane, (chloromethyl)-]
Flammable/Toxic:	Toxic
CAS Number:	106-89-8

Process ID:	1000095673
Description:	Specialty Epoxy Prod.
Prevention Program Level 3 ID:	1000081555
NAICS Code:	325211

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	01-Nov-2021

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	19-Oct-2017

The Technique Used

What If:	
Checklist:	
What If/Checklist:	Yes
HAZOP:	
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	30-Jun-2019

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	Yes
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	Yes
Flares:	
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes

Excess Flow Device:	
Quench System:	
Purge System:	Yes
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	Yes
Fire Walls:	Yes
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Upgrade alarm systems

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	01-Nov-2021

Training

Training Revision Date (The date of the most recent review or revision of training programs):	21-Nov-2018

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer based training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	16-Jan-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	26-Oct-2018
Equipment Tested (Equipment most recently inspected or tested):	Temperature indicators on all reactors in epoxy train

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	22-Oct-2021
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	20-Jul-2021

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	15-Jan-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	29-Sep-2020
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	01-Oct-2020

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	12-Jun-2020
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	01-Jul-2020

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	28-Sep-2021

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	17-May-2021

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	27-Jul-2021
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	14-Oct-2021

Confidential Business Information

CBI Claimed:

Section 8. Program Level 2

No records found.

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	Yes
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	Yes
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	Yes
Healthcare (Does facility's ER plan include information on emergency health care?):	Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	21-Dec-2018

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	27-Dec-2018

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	Maple Shade Township Fire Company
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(856) 779-1335

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	Yes
Clean Water Regulations at 40 CFR 112:	Yes
RCRA Regulations at CFR 264, 265, and 279.52:	Yes
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	Yes
State EPCRA Rules or Laws:	Yes
Other (Specify):	NJ TCPA Act

Executive Summary

Huntsman Advanced Materials Americas, LLC. (Huntsman) purchased the Maple Shade, New Jersey facility in June 1995 and began operations in June 1996. Huntsman manufactures specialty epoxy monomers and resins based on epichlorohydrin chemistry.

Epichlorohydrin is the only listed RMP and TCPA substance that is handled by Huntsman above the threshold quantity. Epichlorohydrin is the basic building block used in epoxy manufacturing and provides the basis for the facility risk management and accident prevention programs. Epichlorohydrin is handled at the facility in bulk in quantities that do not exceed 499,999 pounds. Epichlorohydrin is stored in tote bins, one 15,000-gallon tank for fresh epichlorohydrin, three 2,000-gallon tanks for recycled epichlorohydrin, one 7,500-gallon tank for recycled epichlorohydrin, and two 1,500-gallon tanks for recovered epichlorohydrin. Process equipment includes one 1,200-gallon reactor, one 2,000-gallon reactor, one 13,500-gallon reactor, two 4,100-gallon reactors, and one 3,000-gallon holding tank.

The epoxy resins and monomers (modifiers) produced by Huntsman are used primarily in the specialty coatings industry. Applications include civil engineering coatings such as floor coatings, tank and secondary containment linings, and structural steel primers. Other common uses include adhesives, and specialty automotive and aviation coatings and composites.

The Huntsman facility is designed and operated to minimize the potential for safety and environmental impacts to employees and the surrounding community. Huntsman has demonstrated a commitment to safety and environmental compliance by involving employees and third-party engineering firms in the principals of process safety management. In 2017, Huntsman partnered with Delaware Technical Community College (DTCC) to provide 16 hours of process safety training for every operator in the plant.

In the past 5 years, Huntsman has had two accidents in the covered process area, but only one accident is included in the TCPA/RMP 5-year accident history as explained below.

On May 10, 2016, an explosion occurred during steam distillation to remove trace amounts of xylene from the product. There were no injuries and no offsite impacts. The concentration of epichlorohydrin in the process was only 0.027% at the time of the event. This accident is not included in the 5-year accident history because the concentration of epichlorohydrin was less than 1%. The explosion was caused by the presence of hydrogen peroxide in the process and the formation of an unstable organic peroxide. Hydrogen peroxide has been removed from the facility as a corrective action.

On January 7, 2017, a batch of epoxy resin started foaming in one of the reactors. The vent system filled with foam and approximately 200 gallons of batch material with a nominal composition of 50% epichlorohydrin entered the vent system. The foam eventually reached the scrubber and overflowed into secondary containment. Three employees were sent to the occupational health clinic as a precaution and recorded on the OSHA log as 3 lost work days. There were no offsite impacts. The formation of foam was caused by a flow control valve passing through and high flow of nitrogen going to the reactor. The nitrogen flow control valve was replaced as a corrective action.

The Huntsman Maple Shade facility is operated as an RMP Program 3 facility. Engineering and operational controls are described below.

Process safety information includes process flow diagrams, piping and instrument diagrams, electrical input/output diagrams, fire water system piping diagrams, equipment specifications, and chemical safety data sheets.

The most recent process hazard analysis (PHA) and layers of protection analysis (LOPA) was conducted in March 2017 using the hazard and operability study (HAZOP) methodology. Huntsman hired an outside engineering firm to facilitate the PHA/LOPA.

Written standard operating procedures are updated on a regular basis and include procedures for startup, shutdown, normal operations, and emergencies.

Training is provided for new hires within the first 30 days of employment and refresher training is provided for process operators annually or more often if circumstances warrant. Training topics include hazard communication, emergency response, safe work permits, personal protective equipment, respiratory protection, and use of portable fire extinguishers.

Mechanical integrity and preventive maintenance procedures are in place to assure the reliability of process equipment via testing and inspection, and a computerized work order system is utilized to keep records of equipment repairs.

Safety and environmental incidents are documented and serious incidents are investigated to determine the root cause and identify corrective actions to prevent a recurrence.

Safe work permits are utilized for hot work, energy isolation (lockout tagout), breaking lines, and confined space entry.

Contractors are pre-qualified, trained, and evaluated by Huntsman to ensure that they are qualified to work at the facility. Contractors are required to follow Huntsman policies and procedures.

Management of change (MOC) includes a process change authorization checklist to assure that safety and environmental considerations are addressed. Process change authorizations must be reviewed and approved by facility management. Affected employees must be notified of process changes and trained if necessary. Process safety information and standard operating procedures must also be updated as necessary.

Pre-startup safety reviews (PSSRs) are conducted prior to startup of new equipment or processes to assure that safety and environmental risks have been addressed.

The following projects are planned for improvement of the process safety management program at the facility.

A foam suppression system was installed in the bulk storage tank farms for fire protection. The suppression system includes monitors to enable the foam to be activated automatically in the event of a fire, and to trip the fire alarm to notify employees and emergency responders. The sprinkler system in the main building contains a foam system, and sprinkler heads under each of the reactor vessels.

The ventilation system was upgraded in September 2019 to reduce the chances of an explosive vapor cloud from forming in the event of a leak from process equipment. The ventilation system increased the air recirculation rate in the main building and direct the air flow from the roof level down to the floor level, and will exhaust from the floor level.